



The psychology of morbid curiosity: Development and initial validation of the morbid curiosity scale

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ABSTRACT

The success of horror films, popularity of true crime, and prevalence of violence in the news implies that morbid curiosity is a common psychological trait. However, research on morbid curiosity is largely absent from the psychological literature. In this paper, I present a psychometric tool for assessing morbid curiosity, defined as a motivation to seek out information about dangerous phenomena, and use it to investigate the psychological nature of morbid curiosity. In studies 1 and 2 ($n_{\text{total}} = 1370$), the Morbid Curiosity Scale was developed and its relationship to personality was assessed. Morbidly curious individuals were rebellious, socially curious, and low in animal reminder disgust. Study 3 ($n = 317$) demonstrated that trait morbid curiosity is stable over 4–6 weeks and that morbidly curious individuals prefer movies where threat is a central theme. In Study 4 ($n = 137$), participants were presented with a choice between morbid information and non-morbid information (image and text). Morbid curiosity predicted over half the variance ($r^2 = 0.53$) in decisions to further investigate morbid information. These four studies provide evidence that morbid curiosity is a normally occurring psychological trait that can be assessed using the new 24-item Morbid Curiosity Scale.

1. Introduction

Several lines of research suggest that humans are predisposed to attend to particular features of the world, such as faces, people, and potentially dangerous phenomena (Birmingham, Bischof, & Kingstone, 2008; End & Gamer, 2017; Koster, Crombez, Van Damme, Verschuere, & De Houwer, 2004; Pascalis & Kelly, 2009; Scrivner et al., 2019). This is true even when the phenomenon is unpleasant; indeed pleasantness appears to be unrelated to interestingness (Turner & Silvia, 2006). Furthermore, the modern commercial success of violent action films and horror movies and literature, along with the prevalence of death and violence in the news, suggests that people are curious about topics which might typically be described as unpleasant.

Attending to unpleasant features of the environment may be a necessary part of learning about those features, especially if the unpleasantness would otherwise promote avoidance and prevent information gathering. One example of this is the initial attentional capture of disgusting features. Though they inspire avoidance, disgusting features have been shown to capture attention and cognitive processing in the early stages of visual processing (Armstrong, Engel, Press, Sonstroem, & Reed, 2019; Wheaton et al., 2013). While the function of the emotion

of disgust is presumably to inspire avoidance of potentially pathogenic material, one must first notice and identify the material before it can be avoided. By initially attracting attention, disgusting material can be quickly identified, and exposure can be minimized. Without this predisposition to initially attend to disgusting material, the possibility of longer exposure to potentially pathogenic material would be greater.

Disgusting features are not the only unpleasant things about which humans appear to have curiosity. Violence, danger, and death are historically old and cross-culturally prevalent themes in art, news, and story-telling (Davis & McLeod, 2003; Scalise Sugiyama, 2006; Schechter, 2005). Many rumors also feature information about threatening or potentially threatening phenomena. As the adage suggests, bad news may indeed travel more quickly than good news (Heath, Bell, & Sternberg, 2001). While a general negativity bias plays a role in the spread of information, threat in particular is often responsible for greater propagation of information (Bebbington, MacLeod, Ellison, & Fay, 2017; Blaine & Boyer, 2018). People also more readily believe threat-related information and perceive sources of threat-related information as more competent (Boyer & Parren, 2015; Fessler et al., 2014). Thus, in addition to the avoidance that is inspired by threatening phenomena, curiosity is also aroused and motivates to information

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gathering.

1.1. Morbid curiosity

Morbid curiosity is colloquially described as an interest in or curiosity about unpleasant things, especially death. While psychologists have extensively explored how the mind deals with death (e.g., Solomon, Greenberg, & Pyszczynski, 2015) and curiosity has been investigated in a variety of research programs (e.g., Kidd & Hayden, 2015; Loewenstein, 1994), they have largely overlooked morbid curiosity as a topic of study. In what appears to be the first psychological paper on morbid curiosity, Zuckerman and Litle (1986) developed the Curiosity About Morbid Events (CAME) scale, which is composed of items that reflect an interest or enjoyment in watching violence and death. Zuckerman and Litle (1986) reasoned that the driving factor behind curiosity about morbid events was an individual's need for novel stimulation and arousal. They found that males scored higher on the CAME scale and that scores on the CAME scale positively correlated with sensation seeking.

Despite being published over 30 years ago, the CAME scale has not experienced widespread use in psychology. The lack of adoption of the CAME scale may be due, in part, to the scale itself. The CAME scale is unidimensional and has not been extensively validated either internally or externally. Moreover, most questions on the CAME scale are about witnessing violence, which may only be one aspect of morbid curiosity. Indeed, there is no reason to believe that seeing or witnessing violence itself is the core of morbid curiosity.

The descriptor “morbid” suggests that death plays a central role in defining the object of curiosity. However, it may not make sense for something as broad and abstract as death to be the object of curiosity. Rather, the factors that lead to death might be the objects of morbid curiosity. To the extent that morbid curiosity — or any psychological trait — is an aspect of cognition that has been shaped by evolution, then it would make sense for natural selection to act on more specific socioecological problems related to death rather than the broad problem of death (Kirkpatrick & Navarrete, 2006; Navarrete & Fessler, 2005).

Let us consider an analogy with reproduction and sexual desire. While the ultimate outcome (production of offspring and passing on of genes) is what “matters” for the evolution of reproductive behavior, it is the pathway to this outcome (sex) that is the object of desire. Similarly, the ultimate outcome of a morbid event (death) is what matters, but the pathway to it (a dangerous phenomenon) is the object of curiosity. In other words, death itself is not necessarily what we are curious about; we are curious about the things that lead to death. Understood in this way, morbid curiosity may be defined as an interest in phenomena perceived as dangerous or threatening.

While seeking out dangerous information is probably influenced by sensation seeking as Zuckerman and Litle (1986) suggest, it seems unlikely that sensation seeking is the *core* of morbid curiosity. A sensation-seeking account of morbid curiosity would predict that more intense images would capture more curiosity. However, Oosterwijk (2017) found no relationship between the rated intensity of an image and participant choice to investigate that image, casting doubt on the central role of sensation seeking in explaining morbid curiosity. Oosterwijk also reported extensive individual variation in how often participants chose to view the morbid stimuli. Moreover, inclination to view morbid images depended on the content it displayed (also see Ibarra & Maestri-pieri, 2017). Thus, morbid curiosity requires more than just sensation seeking, and it may be best understood as a multi-factor construct.

Despite the CAME scale not experiencing widespread use, research on morbid curiosity (e.g., Niehoff & Oosterwijk, 2020; Oosterwijk, 2017; Oosterwijk, Snoek, Tekoppele, Engelbert, & Scholte, 2020; Scrivner, 2021) and related topics such as interest in frightening entertainment (e.g., Andersen et al., 2020; Clasen, 2017; Clasen, Andersen, & Schjoedt, 2019; Clasen, Kjeldgaard-Christiansen, & Johnson, 2020; Kerr, 2015; Kerr, Siegle, & Orsini, 2019; Martin, 2019; Scrivner & Christensen,

2021; Scrivner, Johnson, Kjeldgaard-Christiansen, & Clasen, 2021), violence (e.g., Harrison & Frederick, 2020; Scrivner et al., 2019), disgust (Wabnegger, Höfler, Zussner, Freudenthaler, & Schienle, 2021), and dark tourism (e.g., Stone & Sharpley, 2008) has become increasingly more common. This boom in research on morbid curiosity and related psychological and behavioral phenomena implies that the construct is interesting, relevant, requires a more robust theoretical conceptualization, and is in need of an appropriate assessment tool.

I argue that morbid curiosity drives individuals to learn about aspects of life that are perceived to be dangerous. When a dangerous phenomenon is perceived to be near or impending curiosity may spike in order to gather information about the dangerous phenomenon. By learning about the threatening factors associated with death, one can learn to avoid the negative outcomes associated with those factors. Too much avoidance of dangerous or disgusting factors associated with death could lead to ignorance about ecologically important aspects of the world and would be maladaptive in many cases. Thus, morbid curiosity manifests as a balance between the costs of exposure to morbid content and the perceived benefits of learning about that content. However, like other traits, individual differences exist in the extent to which one is curious about the dangerous aspects of life.

1.2. The current research

If morbid curiosity is to be properly studied as an individual difference in psychology, then a reliable scale that assesses trait morbid curiosity is needed. The goal of the current research was to create a robust personality instrument for morbid curiosity, evaluate which personality and individual differences are most strongly correlated with morbid curiosity, and assess morbid curiosity during a behavioral task. In Studies 1a-d, the Morbid Curiosity Scale (MCS) was created and the factor structure of the construct was evaluated ($n_{\text{total}} = 1040$). The factor structure of the MCS was confirmed in Study 2 on a new sample of participants ($n = 330$). Participants in Study 2 also completed a series of personality questionnaires to assess the convergent and discriminant validity of the MCS and investigate the personality correlates of morbidly curious people. Study 3 ($n = 317$) demonstrated that trait morbid curiosity is stable over 4–6 weeks and that morbidly curious individuals prefer movies where threat is a central theme. Study 4 ($n = 137$) was test of the predictive power of the MCS in a behavioral task. Participants completed the MCS followed by a computerized choice task where they chose to view either morbid or non-morbid stimuli based on limited information (i.e., brief flashing of competing images and vague descriptions). Together, these four studies provide an initial description of the psychological nature of morbid curiosity, its relationship to personality and behavior, and provide researchers with a 24-item instrument for measuring trait morbid curiosity.

2. Study 1: development of the morbid curiosity scale

2.1. Method

2.1.1. Scale development

The morbid curiosity scale was developed across four studies using iterative exploratory factor analysis. The fourth and final iteration is described here; the full description of the first three iterations and rationale for item generation can be found in the Supplemental information (Studies 1a – 1c). For the fourth iteration of the scale, 20 items from the previous version were included alongside nine new items. Based on factor analysis from the previous versions of the scale, items were chosen for the fourth version that fit into one of four categories that appeared to emerge: minds of dangerous people, body violations, interpersonal violence, and paranormal danger.

2.1.2. Participants

US adults ($n = 283$; 123 female) were recruited through MTurk and

an online participant recruitment portal for university students ($n = 112$; 79 female) for a study on personality and curiosity. Ten participants were removed from analysis for nonsense answers to an open-ended attention check ($n_{\text{total}} = 385$). All participants completed the task online at their convenience. MTurk eligibility was contingent upon being 18 or older, having completed at least 100 tasks, having a 96% or higher approval rate, and fluency in English. Eligibility for the university sample was contingent upon being 18 or older and fluency in English.

Participant age ranged between 19 and 77 ($M_{\text{age}} = 34$). Of those who reported their race ($n = 379$), 67% reported their race as White/Caucasian, 13% as Asian, 10% as Black/African American, and 8% as Other/Multiracial. Since online and student samples are often used in psychological research, combining the two is one way to better capture generalizability in participant samples typically used in psychology experiments and increase sample size. Sample size was determined by funding and number of participants recruited by the end of the academic quarter. While there is no official manner by which sample size should be determined for exploratory factor analysis, the final sample of 385 participants and item pool of 29 items exceeds common heuristics used to determine sample size for factor analysis, including a sample size of greater than 300 (Comrey & Lee, 1992) and a subject-to-item ratio of 10:1 (Nunnally, 1978).

2.1.3. Procedure

Participants rated the extent to which they agreed or disagreed with the 29 proposed items of the Morbid Curiosity Scale on a 6-point scale (1 = *Strongly disagree* to 6 = *Strongly agree*). Exploratory factor analysis (EFA) was used to analyze the underlying factors in the Morbid Curiosity Scale using the *psych* package in R (Revelle, 2018).

2.2. Study 1 results and discussion

2.2.1. Exclusions

Nine outliers were detected using Mahalanobis distance ($X^2(29) = 58.30$) and they were removed from further analysis ($n_{\text{final}} = 376$). Data were inspected for multivariate assumptions (normality, linearity, homogeneity, and homoscedasticity) to ensure they were appropriate for EFA. Bartlett's test indicated that the data would benefit from factor analysis ($X^2(406) = 6773.75$, $p < .001$) and the Kaiser-Meyer-Olkin (KMO) test indicated sampling adequacy for EFA ($MSA = 0.93$).

2.2.2. Exploratory factor analysis

Parallel analysis was conducted using the *psych* package in R. The first four factors had eigenvalues of 10.21, 2.12, 1.87, and 1.35, respectively, while the fifth factor had an eigenvalue of 0.26. The first five randomly generated eigenvalues were 0.73, 0.50, 0.44, 0.38, and 0.34, respectively. Thus, the parallel analysis suggested that a four-factor model of morbid curiosity was appropriate. While parallel analysis is arguably the best method for determining the number of factors (Lim & Jahng, 2019), a scree plot was also inspected and supported the four-factor solution (Supplementary Fig. 1). Maximum likelihood estimation was used with direct oblimin (oblique) rotation to examine factor structure. Using a factor loading criterion of 0.30, the model achieved simple structure with each item loading on only one factor.

Item loadings ranged from 0.36 to 0.89, with an average loading of 0.72 (Supplementary Fig. 2). Item P8, which was about belief in ghosts/spirits, was removed because it was less related to the other questions which are about the *interestingness* of morbid phenomena rather than the *reality* of morbid phenomena. The lowest performing items on each subscale tended to be the reverse coded items (B3, P4, V1). Though the items cross-loaded below the pre-determined cutoff of 0.30, these items were removed due to minor cross-loading (0.17–0.27) and lower performance compared to other items. The items on the minds of dangerous people subscale were all adequate, but one item (M1) was also removed to reduce redundancy in that subscale. See Supplementary Table 4 for the five items that were removed.

EFA was conducted on the reduced pool of items ($n = 24$). The scale achieved stable structure with factor loadings ranging from 0.45 to 0.92 ($M = 0.73$). The scale as a whole demonstrated excellent internal reliability (Cronbach's $\alpha = 0.94$), as did each subscale ($\alpha = 0.87$ – 0.92 ; Table 1). Factors correlated with one another between 0.40 and 0.47, and the average inter-item correlation for the entire scale was 0.38. The averages for each subscale reported in Table 1. The mean scores for each factor were: minds of dangerous people $M = 3.83$ ($SD = 1.30$), paranormal danger $M = 3.18$ ($SD = 1.34$), interpersonal violence $M = 3.17$ ($SD = 1.22$), body violation $M = 2.82$ ($SD = 1.27$).

2.2.3. Study 1 summary

In summary, iterative exploratory factor analysis was used to investigate the factor structure of morbid curiosity. A final four-factor structure emerged. The Minds of Dangerous People factor contained items that centered around understanding the motivations of dangerous individuals (e.g., serial killers). The Paranormal Danger factor contained items that suggest an interest in phenomena that may appear to defy the scientific understanding of the world or violate natural laws (e.g., magic or ghosts). The Interpersonal Violence factor contained items that reflect an interest in seeing (but not necessarily understanding the motives for) violent acts. Finally, the Body Violation factor contained items that suggest an interest in understanding the limits of the body and what happens when the body is damaged. Central to each of these factors is interest in learning about dangerous or threatening phenomena. For example, interviewing a serial killer, attending an exorcism, watching a duel, and observing an autopsy all allow for an observer to learn about phenomena that are dangerous.

The four-factor scale demonstrated excellent internal reliability, a stable factor structure with no items loading on more than one factor greater than 0.30, and all items loading onto their factor at 0.45 or higher. Each factor explained a similar amount of variance, ranging from 22% to 29%. In order to confirm the factor structure of the scale, a new sample of participants was recruited in Study 2. Participants in Study 2 also completed additional personality questionnaires so that the convergent validity, discriminant validity, and correlations between trait morbid curiosity and other individual differences could be assessed.

3. Study 2: morbid curiosity and personality

In Study 2, the factor structure of the Morbid Curiosity Scale (MCS) was verified using confirmatory factor analysis on a new sample of participants. The convergent and discriminant validity of the MCS was also evaluated by examining correlations between scores on the MCS on other measures of individual difference. If morbid curiosity is, at its core, a curiosity about dangerous phenomena, then it should 1) correlate positively with other measures of approach tendencies (e.g., curiosity), 2) correlate positively with horror media and violent media use, and 3) correlate negatively with measures of threat avoidance (e.g., disgust sensitivity). Because psychopathy has been found to decrease threat avoidance (e.g., von Borries et al., 2012), the relationship between morbid curiosity and psychopathy was also explored. Finally, the relationship between HEXACO and the MCS and chronotype and the MC were investigated to further explore the psychological correlates of morbid curiosity.

3.1. Method

3.1.1. Participants

US participants ($n = 340$) were recruited through Prime Panels for a study on personality and curiosity. Prime Panels is an online recruiting service that utilizes a compilation of online research panels and pre-screened participants, resulting in more nationally representative demographics, more experimentally naïve participants, and high-quality participant data (Chandler, Rosenzweig, Moss, Robinson, & Litman, 2019). Ten participants failed attention checks and were removed from

Table 1
Factor loadings of the 24 items in the Morbid Curiosity Scale.

Items	Factor loadings			
	1 Minds	2 Paranormal	3 Body	4 Violence
2. If a head transplant was possible, I would want to watch the procedure. (B1)	0.00	0.07	0.75	0.05
6. I would be curious to see how an autopsy is performed. (B2)	0.10	-0.08	0.80	-0.03
10. I am interested in seeing how limb amputation works. (B4)	-0.02	-0.03	0.92	-0.01
14. I would like to see how bodies are prepared for funerals. (B5)	0.01	0.10	0.71	-0.01
18. I think the preservation of bodies, like in taxidermy or mummification, is interesting. (B6)	0.04	0.23	0.51	0.09
22. I am curious what the deadliest toxin in the world would do to the body. (B7)	0.27	0.01	0.45	0.15
3. I am curious about crime and enjoy reading detailed news accounts about murders and other violent crimes. (M2)	0.70	-0.03	0.11	0.08
7. I would be interested in watching a documentary on motives behind real murders. (M3)	0.88	0.00	0.01	-0.02
11. My favorite part of a crime show is learning about why the killer did what he did. (M4)	0.73	0.02	-0.02	-0.02
15. I would be interested in watching an interview with an imprisoned serial killer talking about his crimes. (M5)	0.85	0.02	-0.05	0.05
19. Being a criminal profiler who studies the personality of murderers would be an interesting job. (M6)	0.75	0.04	0.08	-0.08
23. I am curious about the minds of violent people. (M7)	0.84	0.00	-0.01	0.03
4. I think the supernatural is an interesting topic. (S1)	0.02	0.72	-0.11	0.04
8. I would be interested in attending or watching a video of an exorcism. (S2)	-0.07	0.59	0.21	0.19
12. I find the Occult interesting. (S3)	0.00	0.76	0.04	0.03
16. A documentary on Voodoo would interest me. (S5)	0.07	0.80	0.01	0.01
20. I am curious how a Ouija board works. (S6)	0.00	0.73	0.08	-0.09
24. I think witchcraft would be an interesting topic to learn about. (S7)	0.02	0.91	-0.04	-0.02
1. If I lived in Medieval Europe, I would be interested in attending a public execution. (V2)	-0.09	0.09	0.29	0.56
5. If I lived in Ancient Rome, I would be interested in attending a gladiatorial fight. (V3)	-0.03	-0.06	-0.02	0.88
9. If I saw a street fight break out, and knew I could not intervene, I would try to watch it. (V4)	0.09	0.06	0.03	0.58
13. I would be curious enough to watch a duel if I lived in the Wild West. (V5)	0.08	-0.02	-0.03	0.81
17. I prefer violent movies and TV shows to be uncensored. (V6)	0.06	0.15	0.03	0.55
21. I am curious what a battle looked like in the Middle Ages. (V7)	0.00	0.06	-0.03	0.71
Cronbach's alpha	0.92	0.90	0.87	0.89
Interitem Correlation (M)	0.65	0.60	0.59	0.53
Percent of explained variance	28%	26%	24%	22%

further analysis, leaving a total of 330 (157 female) participants. Participant age ranged between 18 and 96 ($M_{age} = 42$). Self-reported race was approximately 83.5% White/Caucasian, 12% Black/African American, 1.5% Asian, 1.5% Native American, and 2% Other/Multiracial.

3.1.2. Confirmatory factor analysis

Confirmatory factor analysis was conducted using maximum likelihood estimation and the Lavaan package for R. Five different indices of fit – CFI, TLI, RMSEA, SRMR, and χ^2 were used in assessing the factor structure.

3.1.3. Measures

In addition to the 24-item Morbid Curiosity Scale, participants completed the Five-Dimensional Curiosity Scale Revised (Kashdan, Disabato, Goodman, & McKnight, 2020). The revised scale assesses curiosity along the dimensions of joyous exploration, deprivation sensitivity, stress tolerance, thrill seeking, and social curiosity (separated into overt and covert social curiosity in the revised scale). Additionally, participants completed the 60-item HEXACO personality scale, which assesses personality along the dimensions of honesty-humility, emotionality, extraversion, agreeableness, conscientiousness, and openness (Ashton & Lee, 2009). Participants completed the Psychopathic Personality Inventory Revised short-form (PPI-SF; Lilienfeld & Hess, 2001). The PPI-SF is a well-validated and widely used measure of psychopathy that includes several subscales, including Machiavellian egocentricity, social potency, fearlessness, cold-heartedness, impulsive non-conformity, carefree non-planfulness, blame externalization, and stress immunity (Kastner, Sellbom, & Lilienfeld, 2012). The Disgust Scale Revised (DSR), which includes subscales on core disgust, animal reminder, and contamination disgust, was also administered to participants (Haidt, McCauley, & Rozin, 1994; revised by Olatunji et al., 2007). Having an evening-oriented chronotype is positively associated with traits such as unconventionality, novelty-seeking, sensation-seeking, and the dark triad – all traits that might reasonably be correlated with morbid curiosity (Marvel-Coen, Scrivner, & Maestripieri, 2018). Thus, participants' chronotype was also assessed using the Reduced Morningness-Eveningness Questionnaire (Adan & Almirall, 1991). Finally, participants reported basic demographics and how often they engaged with violent media and horror media per week.

3.2. Results and discussion

3.2.1. Confirmatory factor analysis

The four-factor model demonstrated adequate indices of fit ($\chi^2(246) = 778.23, p < .001$; RMSEA = 0.081, 90% CI[0.075, 0.087]); SRMR = 0.06, CFI = 0.92; and TLI = 0.91) and performed better than a one-factor model ($\chi^2(252) = 1643.67, p < .001$; RMSEA = 0.13, 90% CI[0.123, 0.135]); SRMR = 0.07, CFI = 0.78; and TLI = 0.76). The obtained indices of fit values of the four-factor model were similar to other well-validated curiosity scales (e.g., Kashdan et al., 2020) and meet common benchmarks of good model fit (Kenny, 2015). Factor loadings ranged from 0.66 to 0.89 with factor correlations between 0.71 and 0.88 (Supplementary Fig. 3). As a whole, CFA on this sample of participants supports the four-factor, 24-item Morbid Curiosity Scale presented in Study 1.

3.2.2. Personality traits

Zero-order correlations between the MCS and the other scales are presented in Table 2. Since sex was a variable of interest, one participant was removed from analysis for reporting a sex other than male or female, leaving a total of 329 participants for analysis. Based on zero-order correlations, morbid curiosity appears to be most similar to high fearlessness, rebelliousness, and Machiavellianism from the Psychopathic Personality Inventory, high thrill-seeking from the Five-Dimensional Curiosity Scale Revised, low honesty-humility from

Table 2
Study 2 zero-order correlations with morbid curiosity and morbid curiosity subscales.

Personality/individual difference measure	Violence subscale	Body subscale	Minds subscale	Paranormal subscale	Morbid curiosity
Horror Media Use	0.56	0.50	0.43	0.51	0.56
PPI Rebel	0.58	0.53	0.36	0.49	0.55
PPI Fearlessness	0.54	0.53	0.33	0.37	0.50
PPI Total	0.55	0.50	0.32	0.40	0.50
PPI Machiavellianism	0.51	0.50	0.32	0.41	0.49
FDC Thrill Seeking	0.49	0.50	0.34	0.41	0.49
Violent Media Use	0.51	0.41	0.35	0.41	0.47
PPI Social Potency	0.31	0.37	0.26	0.26	0.34
FDC Covert Social Curiosity	0.30	0.33	0.25	0.31	0.34
FDC Joyous Exploration	0.20	0.30	0.28	0.25	0.29
FDC Deprivation Sensitivity	0.22	0.30	0.25	0.25	0.29
PPI Blame Externalization	0.30	0.26	0.20	0.25	0.29
FDC Overt Social Curiosity	0.20	0.27	0.26	0.28	0.28
Extraversion	0.14	0.19	0.12	0.08	0.15
Openness	0.04	0.10	0.07	0.22	0.12
Chronotype	0.08	0.09	-0.05	0.09	0.06
Agreeableness	0.00	0.08	-0.01	-0.06	0.01
DSR Contamination	0.00	-0.03	-0.03	-0.07	-0.03
Emotionality (Neuroticism)	-0.12	-0.04	0.01	0.02	-0.04
PPI Carefree Nonplanfulness	0.00	-0.08	-0.07	-0.05	-0.06
FDC Stress Tolerance	-0.05	-0.08	-0.04	-0.08	-0.07
PPI Coldheartedness	-0.03	-0.08	-0.18	-0.10	-0.12
PPI Stress Immunity	-0.12	-0.16	-0.09	-0.18	-0.16
DSR Total	-0.16	-0.20	-0.17	-0.15	-0.19
DSR Animal Reminder	-0.14	-0.22	-0.18	-0.15	-0.20
Conscientiousness	-0.28	-0.20	-0.10	-0.18	-0.22
DSR Core	-0.21	-0.22	-0.17	-0.16	-0.22
Age	-0.30	-0.30	-0.16	-0.23	-0.28
Sex	-0.45	-0.34	-0.20	-0.26	-0.35
Honesty-Humility	-0.45	-0.40	-0.26	-0.39	-0.42

Note. Sex was coded as 1 for male and 2 for female, so negative correlations indicated male-skewed correlations. Scale abbreviations are as follows: PPI – Psychopathic Personality Inventory short form revised; FDC – Five-Dimensional Curiosity Scale; DSR – Disgust Sensitivity Revised. Bold values indicate $p < .05$.

HEXACO, being younger, and being a male. Individually, each of these subscales only account for about 20–25% of the variance in morbid curiosity scores. Thus, the correlations in this sample suggest that the MCS is measuring a unique aspect of personality.

To see if morbid curiosity could be accounted for by my multiple personality and individual differences, scores on the individual difference measures were z-scored and a regression was conducted. Less than half the variance in MCS scores was explained (multiple $r^2 = 0.48$, adjusted $r^2 = 0.44$) in a regression model that included every administered subscale, age, and sex as fixed effects. Non-significant predictors were removed one at a time based on the highest p -value until only significant predictors remained. A reduced regression model was conducted with the eight significant variables that remained from the full model (Table 3). At the core of these traits is the propensity to be rebellious (honesty-humility, rebellious nonconformity), unafraid of death or

Table 3
Study 2 reduced regression model for individual differences that predict morbid curiosity.

Personality/individual difference measure	β	SE	t	p
FDC Overt Social Curiosity	0.19	0.04	4.33	<0.001
Honesty-Humility	-0.13	0.05	-2.45	0.015
Animal Reminder Disgust	-0.21	0.05	-4.56	<0.001
PPI Fearlessness	0.13	0.06	2.23	0.026
PPI Rebellious Nonconformity	0.24	0.06	4.04	<0.001
PPI Stress Immunity	-0.13	0.05	-2.85	0.005
Sex	-0.15	0.05	-3.24	0.001
Age	-0.10	0.05	-2.10	0.037

Note: PPI Stress Immunity can be described as the absence of arousal in stressful situations (Kastner & Selbom, 2012). Importantly, a complete lack of arousal in stressful situations would be *unmotivating*. Indeed, enjoyment of fearful situations occurs not when there is a lack of arousal, but rather an optimal amount of arousal (Andersen et al., 2020; Clasen et al., 2019). Corroborating this, PPI Stress Immunity was not correlated with thrill-seeking in this sample ($r = -0.03$, $p = .560$).

reminders of it (animal reminder disgust, PPI fearlessness), experience arousal from stress (stress immunity), and possess an interest in people (overt social curiosity). Younger individuals and males are also more likely to be high in morbid curiosity. The reduced model predicted about 44% of the variance in morbid curiosity (multiple $r^2 = 0.45$, adjusted $r^2 = 0.44$). In other words, defying social conventions, being interested in what makes people tick, and not fearing the certainty of death were good predictors of being high in trait morbid curiosity. These traits may provide the motivational push required for an individual to become curious about and investigate potentially threatening circumstances. While the specific variables varied, the reduced model for each MCS subscale seemed to center around most of the same traits as those in the reduced model for the MCS total score. Reduced models for each of the MCS subscales can be found in the Supplementary Tables 5–8.

3.2.3. Study 2 summary

In sum, Study 2 provides further validity to the factor structure and construct of morbid curiosity as an individual difference. Convergent validity was confirmed through positive associations between morbid curiosity and individual differences such as horror media use, thrill-seeking, and social curiosity. Divergent validity was established through negative correlations with age, core disgust, animal reminder disgust, and honesty-humility. Finally, the inability of a large repertoire of traits to explain even half the variance in morbid curiosity suggests that the Morbid Curiosity Scale is measuring a distinct individual difference that is not captured by general personality, disgust, psychopathy, or general curiosity.

4. Study 3: morbid curiosity and media preferences

Studies 1 and 2 examined and confirmed the factor structure of the 24-item Morbid Curiosity Scale and identified personality traits associated with morbid curiosity. The aim of Study 3 was to test the stability of morbid curiosity across time and assess its relationship to media

preferences. If morbid curiosity is a motivation to learn about threatening situations, then it should predict fandom for genres where a threatening or dangerous phenomenon is central to the story (e.g., horror, crime, and thriller) and should be unrelated to genres where threat is not central to the story (e.g., romance and comedy).

4.1. Study 3 method

4.1.1. Participants

US participants ($n = 322$; 181 female) were recruited through ProLific for a larger study on Personality, Media, and Current Events. Only questions pertaining to morbid curiosity and media preferences were analyzed in this study. Five participants failed attention checks and were removed from further analysis, leaving a total of 317 participants. Participant age ranged between 18 and 66 ($M_{age} = 31$).

4.1.2. Confirmatory factor analysis

Confirmatory factor analysis was conducted using maximum likelihood estimation and the Lavaan package for R. As in Study 2, five different indices of fit – CFI, TLI, RMSEA, SRMR, and χ^2 were used in assessing the factor structure.

4.1.3. Measures

Participants completed the 24-item Morbid Curiosity Scale, the Ten-Item Personality Inventory (TIPI), reported their age, sex, income, and answered a series of questions about their media preferences. The TIPI is a 10-item measure of the Big Five dimensions (Gosling, Rentfrow, & Swann, 2003). Participants were asked to what extent they agreed (7-point scales, strongly disagree to strongly agree) with each of 10 statements about genre fandom. The statements were phrased: “I would consider myself a fan of ___ movies and TV shows.” The genres included horror, zombie, psychological thriller, supernatural, apocalyptic/post-apocalyptic, science fiction, alien-invasion, crime, comedy, and romance.

4.1.4. Test-retest reliability

Four weeks after the initial study, participants were contacted again and asked to complete a second study. Though there is no agreed-upon time frame for test-retest reliability for stable traits, four weeks was chosen because it a stable trait should not change during this amount of time, but variation due to transient error (e.g., mood or other state psychological changes) could be accounted for. Participants were given 2 weeks to finish the second study.

4.2. Results and discussion

4.2.1. Confirmatory factor analysis

The Morbid Curiosity Scale demonstrated strong internal reliability ($\alpha = 0.92$) and a Shapiro-Wilk normality test indicated that responses were normally distributed ($p = .075$; Supplementary Fig. 4) The four-factor model demonstrated adequate indices of fit: $\chi^2(246) = 555.21$, $p < .001$; RMSEA = 0.064, 90% CI[0.057, 0.071]; SRMR = 0.066, CFI = 0.93; and TLI = 0.92. The indices of fit values were similar or even slightly better than those in Study 2, suggesting the factor structure holds up well. CFA on this sample of participants further supports the validity four-factor, 24-item Morbid Curiosity Scale.

4.2.2. TIPI and morbid curiosity

Variables were z-scored and a regression model was conducted with each of the big five dimensions from the TIPI as predictors and morbid curiosity as the outcome. Agreeableness was the only significant predictor of morbid curiosity in the model ($\beta = -0.17$, $SE = 0.06$, $p = .005$). The overall r^2 for the model was 0.04, indicating that the big five personality traits account for very little variation in trait morbid curiosity (Supplementary Table 9).

4.2.3. Genre fandom

Zero-order correlations for TIPI, morbid curiosity, and genre fandom can be found in Supplemental Table 10. Regressions were conducted for trait morbid curiosity and each genre question while controlling for sex, age, income, and TIPI scores (Table 4). Trait morbid curiosity predicted alien-invasion, apocalyptic, crime, horror, supernatural, thriller, and zombie genre fandom. As expected, trait morbid curiosity was unrelated to comedy and romance genre fandom. Interestingly, morbid curiosity was also unrelated to science fiction fandom broadly but was related to alien-invasion film fandom – a science fiction sub-genre where threat is a central theme.

4.2.4. Test-retest reliability

Of the 322 participants from the initial study, 257 completed the follow-up study. After removing participants who had failed attention checks in either study, 249 participants remained for test-retest analysis. Participants' morbid curiosity scores from the follow-up study correlated strongly with scores from the first study ($r = 0.85$, $p < .001$). Subscales also demonstrated strong test-retest reliability (minds: $r = 0.86$, paranormal: $r = 0.84$, body: $r = 0.81$, and violence: $r = 0.80$; all p 's < 0.001). A Shapiro-Wilk normality test indicated that responses to the Morbid Curiosity Scale retest were normally distributed ($p = .093$; Supplementary Fig. 5).

4.2.5. Study 3 summary

Study 3 tested the relationship between morbid curiosity and media preferences and provided additional support for morbid curiosity as a distinct individual difference. Trait morbid curiosity as measured by the Morbid Curiosity Scale was consistent over a 4–6-week period and the factor structure remained robust. Consistent with the theory that morbid curiosity is a motivation to learn about threat, trait morbid curiosity predicted fandom in film genres that center around a threat (e.g., horror, thriller, paranormal), and was unrelated fandom in the genres that do not center around a threat (e.g., comedy and romance).

Supporting the hypothesis that morbid curiosity inspires individuals to learn about threat, morbid curiosity predicted threat-centered science fiction subgenres (e.g., alien-invasion, apocalyptic), but not the science fiction genre broadly. While some science fiction does center around threat, it is often more broadly centered around futuristic advances in science and technology. Thus, the core of science fiction is not about a threat in the same way that it is for horror or thriller films. In sum, Study 3 adds to the convergent and divergent validity of the Morbid Curiosity Scale and the ability of morbid curiosity to account for media preferences beyond the effects of general personality and individual differences.

5. Study 4: morbid curiosity and behavior

The results of Studies 1–3 provided evidence that morbid curiosity is a distinct individual difference that motivates one to learn about threatening situations and can be reliably assessed using the Morbid

Table 4

Models for morbid curiosity and film genre fandom controlling for age, sex, income, and big five personality. Models conducted separately for each genre.

Genre	β	SE	t	p
Alien-Invasion	0.25	0.06	4.58	< 0.001
Apocalyptic	0.33	0.05	6.07	< 0.001
Comedy	0.11	0.06	1.87	0.062
Crime	0.51	0.05	9.93	< 0.001
Horror	0.48	0.05	9.36	< 0.001
Romance	0.00	0.06	0.03	0.977
Science Fiction	0.07	0.06	1.26	0.209
Supernatural	0.39	0.05	7.41	< 0.001
Thriller	0.40	0.05	7.44	< 0.001
Zombie	0.34	0.05	6.26	< 0.001

Curiosity Scale. The aim of Study 4 was to see if differences in trait morbid curiosity predict decisions to learn about threat when given an alternative option. To assess the extent to which scores on the Morbid Curiosity Scale predicted decisions to learn about threats, participants completed a computerized choice task where they chose to gather additional information about either threatening (morbid) or non-threatening (non-morbid) stimuli based on limited information (i.e., brief flashing of competing images and vague descriptions).

5.1. Study 4 method

5.1.1. Participants

Participants ($n_{\text{total}} = 144$) were recruited through an online participant recruitment portal for university students ($n = 44$) and Prolific ($n = 100$). Prolific eligibility was contingent upon being 18 or older, a US citizen, and speaking English as a first language. Eligibility for the university sample was contingent upon being 18 or older and fluency in English. Six participants were removed due to incomplete data. Since sex was used in regression analysis, one participant was removed for selecting something other than male or female ($n_{\text{final}} = 137$; 83 female). Participant age ranged between 18 and 66 ($M_{\text{age}} = 29.2$).

5.1.2. Procedure

Participants completed the 24-item MCS followed by a computerized choice task similar to the one used in Oosterwijk et al. (2017). During the choice task, participants were presented with 32 trials. In the first 16 trials, two equally sized images were displayed side-by-side for 500 ms. After 500 ms, the left side of the screen said "Press 'Q' to make the image on the left show up again for 4 s" and the right side of the screen said "Press 'P' to make the image on the right side of the screen show up again for 4 s." Participants made their selection and were allowed to view the image in the center of the screen for 4 s. Between each trial, participants saw a target in the center of the screen for 500 ms to help center their vision between the two images before stimuli were displayed.

For the second set of 16 trials, participants were first presented with two descriptions for an unlimited amount of time until a choice was made. Beneath the description on the left, participants were instructed to press Q if they wanted to see what the description described; beneath the description on the right, participants were instructed to press P to see what was described. The participant's choice remained on screen until the participant clicked "next." As with the images, each morbid description was paired with a closely matched control description. For example, one trial presented participants with the choice to view either a photo of a supposedly haunted building (paranormal) or a photo of a famous building (control). Based on the choice, participants would then see the photo of their choice. In some cases, descriptions described written text. For example, one trial presented participants with the choice to either read an excerpt of an interview with an astronaut about his job or to read an excerpt from an interview with an FBI profiler talking about his job. Photos were always paired with photos, and written descriptions were always paired with written descriptions. Each morbid image or description was always paired with the same closely matched control image or description.

Presentation of pair order and which side the morbid image was presented on was randomized for all 32 trials such that morbid and control images were randomly displayed on either side of the screen. Participants were instructed that the task was not a reaction time test and that there were no right or wrong answers. Participants were asked to let their natural curiosity guide their selections. For analysis, the total number of morbid choices across both parts of the task was calculated in order to ensure that the measure was robust to variations in presentation (visual flash vs semantic description).

5.2. Study 4 results and discussion

The average morbid curiosity score was 3.51 ($SD = 0.96$). A Shapiro-Wilk normality test indicated that responses were normally distributed ($p = .93$). A paired t -test suggested that participants chose the non-morbid (17.3) stimuli slightly more often than the morbid (14.7) stimuli, $t(136) = 2.01$, $p = .046$, $d = 0.34$). Participant age, sex, and scores on the MCS were regressed onto the number of morbid choices they made during the choice task. Scores on the MCS strongly predicted the number of morbid stimuli choices ($B = 5.64$, $SE = 0.48$, $p < .001$; Fig. 1). Neither age ($\beta = -0.06$, $SE = 0.04$, $p = .134$) nor sex ($B = 1.19$, $SE = 0.94$, $p = .210$) predicted the number of morbid stimuli chosen in the model. When age and sex were removed from the model, morbid curiosity accounted for over half the variance in morbid choices ($B = 5.84$, $SE = 0.47$, $p < .001$, $r^2 = 0.53$).

5.2.1. Study 4 summary

Study 4 was a simple test of whether or not the Morbid Curiosity Scale predicts morbid behavior. On average, participants chose slightly fewer morbid stimuli than control stimuli. However, the average participant still chose to further investigate the morbid stimuli about 46% of the time, suggesting that the average person possesses some degree of morbid curiosity. Additionally, variation in morbidly curious behavior was strongly predicted by scores on the Morbid Curiosity Scale. This study provided initial evidence that trait morbid curiosity can predict threat-related information gathering behavior for visual and written stimuli.

6. General discussion

Across four studies this paper presents the first attempt to describe the psychological nature of morbid curiosity and assess individual differences in this trait. This was accomplished through the construction of the new Morbid Curiosity Scale (Study 1), assessing its validity and relation to personality (Study 2), and evaluating the extent to which it predicts morbidly curious preferences (Study 3) and behaviors (Study 4). While the four factors of the 24-item Morbid Curiosity Scale — minds of dangerous people, body violation, paranormal danger, and interpersonal violence — measure distinct facets of morbid curiosity, the underlying theme is a curiosity about threatening phenomena.

One of the strongest predictors of morbid curiosity in Study 2 was animal reminder disgust. Rozin, Haidt, and McCauley (2008) argue that animal reminder disgust is about the threat of death to self-conscious beings. While the factors that lead to death often inspire aversion, completely avoiding these phenomena would result in dangerous naivety. It seems likely that there must be a psychological mechanism that regulates interactions with dangerous phenomena and promotes information gathering about these phenomena when the benefits are perceived to be greater than the costs. Morbid curiosity is a promising candidate for the behavioral reflection of this psychological mechanism.

Crucially, there are individual differences in the degree to which dangerous information inspires curiosity. Perhaps one reason for the interindividual variation in morbid curiosity is that not every member of a group needs first-hand knowledge of a dangerous phenomenon in order to learn about it. Indeed, if a critical mass of individuals perpetuates information about dangerous material, it can quickly spread throughout the group. This is consistent with evidence suggesting that threat-related information is more readily accepted as true and that the sources that threat are perceived as competent (Boyer & Parren, 2015; Fessler, Pisor, & Navarrete, 2014; Hilbig, 2009). Combined with the inherent danger in being curious about dangerous situations and phenomena, the premium placed on dangerous information might result in only a small number of individuals being extremely morbidly curious. The rest of the population would only require a moderate degree of morbid curiosity — just enough to listen to those who are sharing the information — in order to benefit. This would lead to morbid curiosity

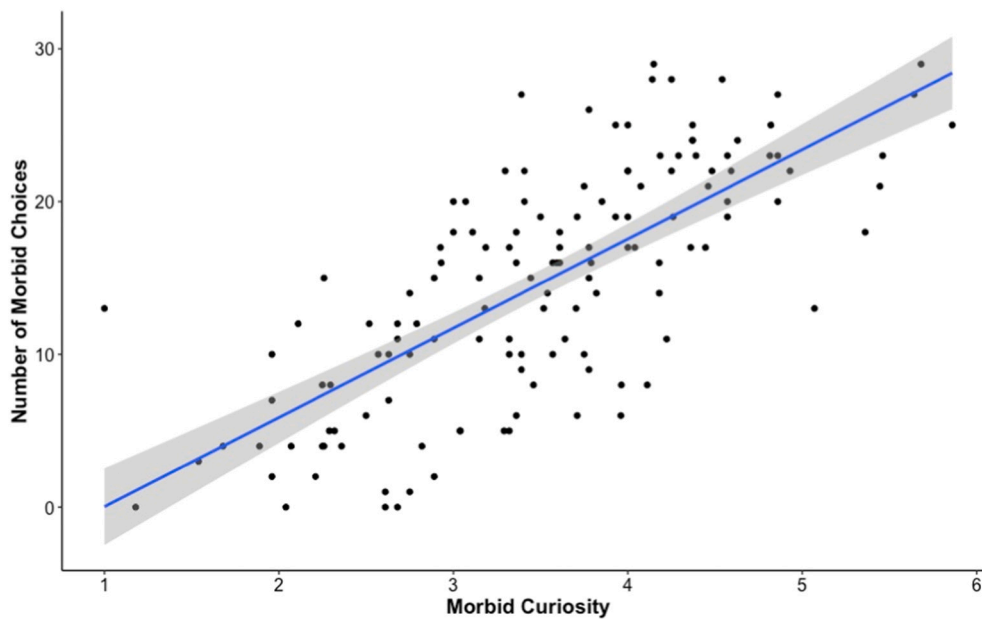


Fig. 1. Correlation between scores on the Morbid Curiosity Scale and number of morbid stimuli chosen for inspection ($r = 0.73$, $r^2 = 0.53$).

being roughly normally distributed in the population, as seen in the samples in the present studies.

One area where morbid curiosity may play a particularly powerful role is in media and entertainment preferences. In Study 3, morbidly curious participants were more likely to be fans of movies and TV shows where threat was a central theme. Though threats in these movies and TV shows are not real, fictional stories can serve as powerful vehicles for information and learning (Mar & Oatley, 2008; Morin, Acerbi, & Sobchuk, 2019; Scalise Sugiyama, 2021). Consumers are sometimes conscious of this. For example, the desire for real-world knowledge has been found to be a motivating factor for engaging with violent media (Bartsch et al., 2016). The same is likely true of other genres, including those with morbid or macabre themes. As noted by horror novelist Stephen King (2011), a good horror story uses fictional events to help readers understand their own real fears.

Study 4 provides empirical evidence that individuals vary with respect to morbidly curious behaviors and that this variation is captured by the Morbid Curiosity Scale. Individuals in Study 4 who scored high in trait morbid curiosity were more likely to gather more information about morbid phenomena. The behavioral measure in Study 4 was a measure of epistemic morbid curiosity; participants were gathering information via pictures or text. It is unclear to what extent morbid curiosity predicts morbid behaviors that are more visceral. Presumably, a morbidly curious person would be more likely to not only prefer epistemic information about morbid objects, but also perhaps experiential or tactile information. However, the experiential or tactile information may only be preferred if it can provide additional knowledge that cannot be gleaned from a more distant method, such as visual inspection or reading. Future studies should attempt to distinguish between these different kinds of morbid curiosity.

6.1. Limitations and future directions

While this paper provides an important initial step in the study of the psychology of morbid curiosity, several questions remain. The four facets of morbid curiosity appear to target specific kinds of threats that humans face – the threat of interpersonal violence, the threat of dangerous people, the threat of physical damage to the body, and the perceived threat of the paranormal or supernatural. However, threats can be somewhat subjective and encompass a wide variety of

phenomena. Would an interest in predators, for example, be linked to morbid curiosity? What about weapons? While a gun could be considered a threat, it likely does not inspire morbid curiosity. However, a man holding a gun might inspire morbid curiosity, a man pointing a gun at another person probably would, and a man shooting another person almost certainly would. Likewise, a lion may not inspire morbid curiosity, but a lion chasing a person probably would, and a lion killing a person certainly would. As with the gun, the attractor would not be the lion, but the damage done to the body of the person it is attacking (i.e., body violation). More work needs to be done to detail the finer theoretical lines of what actually triggers morbid curiosity and how this relates to threat perception.

There are also many other traits that could be related to morbid curiosity that were not tested in the current studies. It is likely that sensation-seeking is positively correlated with morbid curiosity, as exposure to many of the topics that fall under the umbrella of morbid curiosity would lead to high-arousal. For example, interest in horror movies, one of the highest predictors of morbid curiosity, is positively correlated with sensation-seeking (See Martin, 2019 for review). Traits that are related to vigilance towards threat, such as superstitious beliefs and conspiracy theory beliefs, may also be associated with morbid curiosity. For example, increased threat perception during COVID-19 was related to increased conspiratorial thinking (Heiss, Gell, Röthlingshöfer, & Zoller, 2021). Future studies should investigate whether those who are interested in threat — i.e., the morbidly curious — exhibit similar behaviors.

Morbid curiosity may also hold important implications for clinical psychology. For example, heightened morbid curiosity and heightened anxiety both promote threat vigilance. Some evidence suggests that, like morbidly curious individuals, anxious individuals are more likely to prefer entertainment that centers around threat (Nave, Rentfrow, & Bhatia, 2020; Strizhakova & Krcmar, 2007). It may be the case that anxiety and morbid curiosity share some psychological mechanisms that pertain to threat detection and monitoring. Of course, the morbidly curious person often enjoys the frightening experience while the anxious person does not. It is possible that scary-fun experiences, like those that morbidly curious people seek out, could be used to teach those with anxiety how to overcome anxiety-inducing experiences (e.g., see Kerr et al., 2019; Scrivner & Christensen, 2021). Thus, a better understanding of morbid curiosity could pave the way for new insights and treatment

avenues for a variety of anxiety disorders.

6.2. Conclusion

Across four studies, this paper provides the groundwork for understanding the psychology of morbid curiosity. A novel and robust instrument for assessing individual differences in trait morbid curiosity was developed and validated. Personality correlates of morbid curiosity were assessed and the ability of the Morbid Curiosity Scale to predict behavior was demonstrated. In sum these studies revealed that while people on average possess some degree of morbid curiosity, substantial variation in morbid curiosity exists and is adequately captured by the Morbid Curiosity Scale.

CRediT authorship contribution statement

C. Scrivner: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Visualization, Writing – original draft, Writing – review & editing.

Research ethics approval

The Institutional Review Board for the Social Science Division at the University of Chicago approved procedures of all studies.

Data availability

The data that support the findings of this study are openly available on OSF at https://osf.io/3ms8p/?view_only=46e8ef680fac43358fc6445b2f9da3dd.

Declaration of competing interest

The author declares no conflict of interest.

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Appendix A. Supplementary data

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